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OIL

THE captive area of Europe is much less rich in oil than in hard fuel. At the same time its resources in oil are much larger than those of Western Europe. In the interwar period the principal oil fields of the present captive area were situated in Rumania, and the much less important ones in Southern Poland. The Austrian and Hungarian oil resources were not exploited; in fact, they were not known to exist. Rumanian production rose steadily and reached its peak output of 8.7 million metric tons in 1936; since then, the output has been decreasing. In 1938 Rumania produced 6.6 million tons of oil and Poland 0.5 million; in the same year, oil began to flow from the new fields in Austria and Hungary. In 1939 the eastern and richer part of the Polish oil fields (Drohobycz and Boryslaw) was annexed by Soviet Russia. During World War II the Nazis brought up the Austrian output to 1.2 million tons (1944) and that of Hungary to over 0.8 million (1943), but they were unable to increase or even to maintain the level of Rumanian production, whose war peak was reached in 1942 with 5.7 million tons.

Rumanian oil fields and refineries at Ploesti and its vicinity were heavily bombed by the Allies during the war, but the ensuing damage was on the whole speedily repaired. When the Soviet authorities took over the Rumanian oil fields in the fall of 1944, they began by seizing much of the drilling material and refinery equipment and removing it to Russia. In consequence, the productivity of the Rumanian oil fields was drastically impaired. For the same reason, the productivity of the Hungarian and Austrian oil fields (all Austrian wells are situated in the Soviet zone) also declined sharply. The initial Soviet policy of indiscriminate plundering, however, was soon replaced by one of rebuilding all mid-European oil wells under Russian control

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— including Albania — and exploiting them to the utmost of their capacity. Since then, except for the insignificant Czechoslovak and Polish oil fields which are run by local governments, the really large captive oil fields have been operated by Soviet or mixed semi-Soviet companies. This means that they are managed by Soviet specialists using Soviet machinery and installations, according to the Soviet methods of extraction, which the Russians regard as more progressive than those used in the West. A huge and ever growing amount of money and energy is being invested in the extention of the existing fields and the search for new ones. The Soviet idea seems to be that the foreign companies which operated the oil fields in the captive area in the past were only looking for immediate profits and never did their job properly [illegible] that there is bound to be more oil all over Middle Europe. Insofar as Rumania and Hungary are concerned, the results of the Soviet efforts cannot be considered remarkable. The output of Hungary remains stationary, while in Rumania, partly because of Russian haste and the harshness of their methods, there have been until the present time constant difficulties of every kind with machinery, organization, and manpower — perhaps even some sabotage.[21] The best proof of this is the fact that no statistics on oil production in absolute figures have been officially published in Rumania since 1947; had there been good reason for boasting, the figures undoubtedly would have been made known. On the other hand, there is much evidence that the Russians have been more successful in Albania, and even more so in their zone of Austria.

The present rate of oil output in Rumania, and for that matter in most of the other captive or Soviet-controlled countries (there is no oil in the Soviet zone of Germany), is the subject of much speculation.[22] Every authority has its own set of estimates, and there are surprising differences between them. Only a few of these diverging estimates can be quoted here. Thus the *Economic Survey of Europe in 1950*, an official publication of the United Nations — bound as it is to accept the indices occasionally given by the satellite governments and to draw its conclusions from

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them — estimates that in 1950 the Rumanian output of crude oil reached 5.35 million metric tons, that of Hungary (which lagged behind its plan for 1950) 0.55 million, of Poland 0.18 million, and of Czechoslovakia 0.05 million metric tons. Together with the Soviet zone of Austria, whose production the *Survey* estimates at 1.5 million tons, the total 1950 output of the captive area should have reached 7.63 million metric tons — plus that of Albania, for which the *Survey* gives no figure.

According to the other authoritative sources, the above-quoted figure on the Rumanian output reflects the nonfulfilled plans of the Rumanian government rather than the actual level of production. Competent Rumanian experts residing in the United States claim that the 1950 oil output in Rumania did not exceed 4.2 or perhaps even 4.0 million tons.[23] On the other hand, it is possible that the *Survey* underestimated the output of oil in Austria and Czechoslovakia. Thus, according to accredited American sources with access to much special information, the 1950 output of oil in the Soviet-controlled section of Europe was: Albania, 1,915,000 metric tons; Austria, 2,247,000 tons; Czechoslovakia, 275,000 tons; Hungary, 490,000 tons; Poland, 138,000 tons; and Rumania, 4,360,000 tons — a total of 9,415,000 metric tons. This total is larger than most of the other estimates because of the high figures for Austria and Czechoslovakia, and in particular because of the surprisingly high figure for Albania.[24] It should be noted that the corresponding figure for the Soviet Union in 1950 is presumed to have been 37,600,000 metric tons. If the above-quoted American estimate is exact, it would mean that the output of oil in the captive part of Europe amounts to as much as one fourth of that of Russia proper.

Whatever estimate is accepted for 1950, it may be assumed that the 1951 output of oil in captive Europe will be somewhat larger. It is true that according to official admissions the 1951 oil production in Czechoslovakia and Hungary has been lagging behind the plan, but this does not necessarily mean that it has fallen below the level of the preceding year. On the other hand,

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it is claimed that by the middle of 1951 the Rumanian output was 19 percent larger than by the middle of 1950, and the Polish output in the third quarter of 1951 was 11 percent larger than that of the third quarter of 1950.[25] Moreover, new oil fields were discovered recently in the Soviet zone of Austria at Schwardorf south of the Danube, opening up, it is asserted, "fantastic possibilities" for the future.[26]

It is not easy to have an accurate idea of how much oil should be extracted in the captive part of Europe in the light of the investments and other measures foreseen in the long-range economic plans. The current plans anticipate that in 1955 Rumania should produce 10 million metric tons and Poland about 0.4 million; Czechoslovakia plans to extract 0.15 million tons by 1952. The planned figure for Hungary has never been disclosed, and neither have been those for Austria and Albania, both of which produce oil for the Soviet Union. Yet it is certain that the Soviet authorities operating the oil fields in the three last-mentioned countries *must* have definite targets which they have to reach by the end of 1954, when most of the present long-range economic plans of the captive countries will, in fact, terminate. These targets, together with the three disclosed ones, may add up to any figure between 13 and 16 million metric tons of oil; that is, between about 94 and about 115 million barrels — an output depending on many unpredictable elements. A tentative figure of 13 million metric tons to be reached by 1954 has been adopted in this study as a basis for further computations.[27]

This estimate for 1954 — which may be a low one — should be compared with the 60 million metric tons of crude petroleum the Soviet government expects to extract in 1960.[28]

To the tentative figure for 1954 should be added the growing output of synthetic oil produced in the northern part of the captive area.

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NATURAL GAS

In Europe, even more than in America, most of the natural gas extracted as a by-product of oil refining had been for a long time wasted, and its utilization for lighting, fuel, and extraction of natural gasoline is a comparatively new process. International statistics do not exist for its production but only for its consumption in the given states, which is supposed to be equal to its effective collection within the same boundaries.[29] In 1930 Rumania, with its consumption of 1,206 million cubic meters of natural gas, and Poland, with 487 million, were responsible for nearly one hundred percent of the total European output of this gas. Several long-distance gas pipelines were laid in Rumania. The pipeline connecting Daszawa in the Polish oil fields with Warsaw was still unfinished by September 1939; the Russians redirected that line to Kiev. During World War II the extraction of natural gas was started in the present Russian zone of Austria and in Hungary.

The last known statistics for gas production in absolute figures in Rumania date from 1947, when it reached 1,176 million cubic meters; in Poland (which lost to Russia two thirds of its oil fields) from 1948, when it was 162 million cubic meters; and in Hungary from 1947, when it was 100 million cubic meters; and in Austria from 1949, when it was 59 million cubic meters. The Rumanian output was then small in comparison with its peak in 1936, when it reached 2,130 million cubic meters. Since 1947-1949 no figures for natural gas extraction have been published by any captive or Soviet-controlled country, and some of the percentile indices disclosed by these countries are contradictory. There are reasons to assume, however, that there has been since 1947 a steady though slow increase of that production in Hungary and a much more rapid one in Poland and Rumania.

315 185 433 Thus, the increase of Polish production in 1950 over that in 1949 was officially described as "an enormous jump" and the output of gas in the third quarter of 1951 was alleged to have been 173 percent of that the whole year before. In Rumania the 1950 output increased, according to the official press, by 24 percent in comparison with that of 1949, and the output of the first half of 1951 was alleged to have been larger by one third than that of the first half of 1950.[30] It is not possible to check these assertions, but they may correspond to the truth. Rumania would not be building three plants for the chemical processing of gas unless there were good reasons for expecting an increase in the extraction of gas.

[185] According to their long-range plans, which officially terminate in 1955 but are expected to be fulfilled by 1954, Rumania anticipates extracting 3,900 million cubic meters of natural gas, and Poland 480 million meters. These targets are moderate in comparison with those foreseen for oil extraction. The Hungarian target for 1954 is unknown, and so is the Soviet plan for Austria. The Czech output is negligible. A hypothetical figure of some 5,000 million cubic meters of natural gas, almost entirely dependent on the unpredictable Rumanian output, is the best that can be surmised for the entire captive area in 1954.

Germany (in particular in Saxon Lusace, or Lausitz) has to be mined from deep pits; the rest of it, lying on the surface or in shallow strata up to a depth of 165 feet, can be worked from open mines.[78] The main difficulty lies in removing and carrying away the overburden of soil, sand, and gravel; at present this sometimes amounts to as much as 12 to 15 times the volume of lignite extracted. Unlike those of coal, many lignite seams are very thick.

Most of the shallow strata of lignite are gradually being exhausted, and the ratio of overburden to lignite is slowly but surely increasing. However, many difficult technical and social problems of coal mining do not apply to lignite mining in the northern part of the captive area. This is also true, though not to the same extent, in Hungary and Rumania. The extraction of lignite, in particular in Eastern Germany, does not depend so much on an adequate supply of skilled miners as on machinery, and can be speeded up in proportion to the investment in mechanical excavators and transportation.[79] During the last war the Nazis stepped up the output of lignite by machinery and were able to cover huge requirements for electric power as well as for synthetic oil and rubber. Under present circumstances, the planned quotas for lignite in Eastern Germany and possibly Czechoslovakia can be met assumedly without too much difficulty. This may also be true for some deposits in the southern captive countries. Consequently, thermal electric plants in a large part of the captive area seem to be assured of a sufficient amount of fuel. It is true that hitherto lignite could not have been used in smelting, but the huge iron and steel "West-Kombinat" under construction at Calbe-on-the-Saale in Sachsen-Anhalt will be working exclusively on lignite.[80]

The oil production of the captive area depends on factors which are difficult to assess. The reserves of coal in the area are for all practical purposes unlimited, and new investments in coal and lignite mining, together with a propitiatory attitude towards labor, will always result in more coal being extracted. The pro-

duction of oil is different: there is no guarantee that new investments will produce oil. On the eve of World War II, the Polish oil fields were regarded as being gradually exhausted: between 1900 and 1938 their annual production fell from some 4 million metric tons to 0.5 million. The production of the much richer Rumanian oil fields fell from a peak of 8.7 million tons in 1936 to 5.2 million tons in 1943, and the prevailing technical opinion was that they had passed their production peak. The point of departure of the current long-range plans is that the new oil fields in Albania, Czechoslovakia, and Hungary (and Austria as well) can be developed almost at will, and that the exhaustion of the oil fields in Rumania and Poland can be halted and that production can be stimulated. The satellite governments and the Soviet experts who manage most of the oil fields take for granted that they contain much untapped oil, and that it can and will be extracted. More effort than ever before is being expended in the search for new sources of oil and in full exploitation of the existing wells. According to the Rumanian Five Year Plan about five million feet of new drilling will be made in 1955, while in the top production year of 1936 new drilling reached only one million feet.[81] According to the same plan Rumania will manufacture most of its own oil mining machinery and make the installations in its plants. Altogether the equivalent of 860 million dollars will be invested in the Rumanian oil industry in the course of the current plan.[82] As noted above, the oil production hitherto obtained does not seem to confirm such optimism, especially in view of the fact that since the summer of 1951 the situation in the Rumanian oil fields as well as in the others, has been much complicated by the food crisis.

To sum up: after consideration of all data pertaining to fuel and power production in the captive area of Europe, both actual and planned, the following conclusions can be made. If the satellite governments do not fundamentally revise their attitude towards labor, especially during the present food crisis, and unless rapid technical and organizational progress is attained in hard coal extraction, the coal shortage may develop into a bottle-

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tons of coke in 1952, 1,300,000 tons by 1953 and 1,700,000 tons by 1955 (speech of 31 October 1951, by Heinrich Rau, Eastern German minister of planning, *Wirtschaft*, Berlin, 1951, No. 44). However the rapidly growing requirements of the new Eastern German metallurgic plants cannot be satisfied by the two locally produced types of coke and a large importation of coke from Poland. In its four year trade agreement with the Soviet Union of 27 September 1951, the Eastern German government assured itself the importation of 250,000 tons of coke from Russia annually for the period 1952-1955 (*Wirtschaft*, Berlin, 1951, No. 42).

[18] An estimate of the writer, based on the assumption that most of the hard coal extracted in Eastern Germany and Hungary, as well as in Rumania, will be converted into coke. Thus, the huge steel plant at Dunapentele (Stalinváros) in Hungary, now under construction, is expected to be run on Hungarian produced coke, converted from the local Pécs coal. The demand for coke by that plant alone may exceed one million tons.

[18] *European Steel Trends*, United Nations, Geneva, 1949, p. 40.

[17] An unpublished study on Czechoslovak industry by Dr. V. Paulat of New York.

[18] National Economic Plan for 1951, *Dziennik Ustaw* (Journal of Laws), Warsaw, 31 March 1951.

[19] Heinrich Rau, speech of 31 October 1951, *Wirtschaft*, Berlin, 1951, No. 44.

[20] A conservative estimate of the writer.

[21] See the *Information Bulletin* of the Rumanian National Committee, Washington, for 1950 and 1951, and *La Nation Roumaine*, Paris, *passim*.

[22] Here are some of the non-quoted estimates: the *Review of International Affairs*, Belgrade, 28 March 1951 — 3.5 million tons; *World Today*, London, Royal Institute of International Affairs, April 1951 — 3.8 million; *Etudes et Conjonctures*, Paris, a semi-official publication, January-February 1951 — 4.3 million; *Gospodarka Planowa* (Planned Economy), Warsaw, February 1951 — 5.46 million tons. The Belgrade magazine is biased.

[23] The first figure comes from the Rumanian National Committee, *supra*, the second from Dr. G. G. Rosu.

[24] According to the *Wirtschaftsdienst*, Hamburg, June 1951, Albania planned to extract 306,000 tons of oil in 1950. According to Musil, the Albanian correspondent of *Wirtschaft* (Berlin, No. 48 of 30 November 1951), the Albanian extraction of oil reached 192,000 tons in 1948 and increased to 307,000 tons in 1950.

[25] Figures taken from recent official reports.

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[26] United Press from Vienna, quoted after *Anglo-Polish Review*, London, October 1951.

[27] An estimate of the writer, shared by some other researchers.

[28] Stalin's speech of 9 February 1946.

[29] United Nations *Statistical Yearbook*, New York, 1949-50, p. 145. This is no longer true. In 1945 pipelines were laid to convey natural gas from Rumania to the Soviet Union.

[30] Data for Rumania and Poland taken from the official reports on the fulfillment of the annual and quarterly plans.

[31] Most of the data which follow are based upon Jean Chardonnet, *Les conséquences économiques de la guerre*, Paris, Hachette, 1947.

[32] J. A. Wilder, *Polish Regained Territories*, London, 1948.

[33] Dr. Paulat's study on the industrial development of Czechoslovakia, 1951.

[34] *Wirtschaft*, Berlin, *passim;* also advertisements in the Eastern German press.

[35] *Wirtschaft*, Berlin, 1951, No. 1.

[36] *Wirtschaft*, Berlin, 1951, No. 44 of November 2.

[37] See page 29.

[38] Speech of minister for planning, Dolanský, introducing the revised plan (end of February 1951).

[39] *Wirtschaft*, Berlin, 1951, No. 44 of November 2.

[40] Leuna plant employs 28,000 people, and is the greatest single plant in Eastern Germany. Karl Kühn (*Wirtschaft*, Berlin, 1951, No. 18) stated that Leuna could produce much more gasoline in 1950, because the installed capacity would permit such production, but that nitrogen-making had priority.

[41] Speech by Hilary Minc, *Trybuna Ludu*, Warsaw, 24 May 1951.

[42] United Nations *Statistical Yearbook*, New York, 1949-50. In 1937 Czechoslovakia produced 42,600 tons of benzol and Poland 31,100 tons; in 1936 Germany, outside the Bizone, produced 131,000 tons.

[43] *Ibidem*, p. 110.

[44] Professor H. Herbich, quoted by S. Rotarski, "The Unexploited Resources of Europe," in *Eastern Quarterly*, London, January 1950. The four rivers are the Columbia, Colorado, Sacramento, and San Joaquin.

[45] Speech by Heinrich Rau on 31 October 1951. See footnote 14.

[46] *Trybuna Ludu*, Warsaw, 24 October 1951.

[47] Dr. V. Paulat. See footnote 17.

[48] Exhaustive data on that problem in *Wirtschaft*, Berlin, 1950, No. 51.

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[72] National Plan for 1951.

[73] *Wirtschaft*, Berlin, 1951, No. 21.

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[74] Chardonnet. The German word is "Wärme-Ingenieure."

[75] *Ibidem.*

[76] *Wirtschaft*, Berlin, 1949, No. 13.

[77] The German technical word is "Abraum."

[78] Max Fritsch in *Wirtschaft*, Berlin, 1951, No. 32.

[79] Redmayne, *op. cit.*

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[80] *Wirtschaft*, Berlin, 1951, No. 40.

[81] *Rumanian Information Bulletin*, Washington, 25 January 1951.

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[82] *Ibidem.*

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As early as 1945, the Soviet Union began to negotiate
trade agreements with all the Eastern European countries. 648
In the beginning these trade agreements were limited to the 439
determination of goods to be mutually delivered during a specific period of time. In time these trade agreements were replaced by more elaborate documents which established definite goals to be achieved in the exchange of commodities between the countries concerned. If the new treaties and agreements indicate anything, they indicate the primacy of economics in the Soviet outlook. This was but one means by which the preponderance of the Soviet Union in the area was assured.

Although the Council on Mutual Economic Assistance (Comecon) was announced to the world in 1949, it is not yet clear that complete economic integration exists. What is clear is a trend to make the various captive countries of the orbit dependent upon the Soviet Union, since the area does not possess half the basic raw materials that it needs. Thus while there is no economic integration of the satellites as a regional bloc, there is a tendency because of their need for raw materials for them to become part of one centralized Soviet system.

This system is best evidenced by the existence of joint or 315 ●
mixed companies. In Rumania, the oil fields are owned by 439
a mixed Soviet-Rumanian company. In effect this means that the Soviets control Rumanian petroleum production. The Russian representatives on the company board control the majority of votes and are in a position to decide policies and production norms. In addition, the companies operate rent free, receive the highest priorities in labor, equipment and resources.

The extent of Soviet parasitism in Eastern Europe might 648
have remained a "state secret" had not the Yugoslavs di- 439
vulged it to the world. As the Yugoslav *White Book* so well documents, one of their major criticisms of the Soviet behavior arose from the negotiations over the so-called Soviet-